



## CONTROL OF INSECTS IN STORED GRAIN

By

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There are several pests of stored grain in Texas. Recommendations which follow are suggested for the safe storage of grain.

Bins should be cleaned thoroughly and if constructed of wood should be sprayed with a residual spray at the rate of two gallons per 1000 square feet of wall or floor surface area. Steel bins should be sprayed around the door frames where the insects may be concealed. Sprays that have been found satisfactory for treating bins consist of concentrations of two and one-half per cent by weight of DDT or chlordane as emulsions or water suspensions. The water suspensions of DDT can be prepared by mixing ten and one-half pounds of 50 per cent wettable DDT in 25 gallons of water. These sprays can be applied safely and easily with an ordinary garden sprayer. If bins are a part of a building or shed, spray all wood work surrounding the bins in order to kill insects hiding there.

Remove all sources of infestation including feed, waste grain and other materials stored or accumulated nearby before the grain is placed in the bins. Grain should be as dry as possible. (Not more than 12 per cent moisture in grain sorghums.)

Within a month after the grain is placed in the bins, it should be fumigated with one of the fumigants listed in Table 1. Thereafter it should be inspected once a month during warm weather and refumigated if it has sufficient insects present to grade weevilly (two weevils or five bran beetles per 1000 gram sample.)

Insects are likely to be found near the surface of the bin in grain sorghums or shelled corn. Their presence can usually be determined by sifting a sample of the surface grain.

The temperature of the grain can determine the condition of the grain. By thrusting the hand and arm into the grain, it is possible to tell whether the grain is warmer than usual. The temperature of deeper portions of the bin can be estimated by thrusting a fork handle or metal rod into the grain, leaving it for a while and then withdrawing it. If it feels hot to the hand, the grain is heating.

Apply fumigants from the outside of the bin by means of a bucket pump or other type sprayer, and distribute evenly over the surface. It is unwise to apply fumigant with a sprinkling can since the vapors have an anesthetic action when breathed in concentrated form.



The fumigator should avoid inhaling any of the vapors and should avoid spilling the fumigant on the skin, clothing, or in the shoes. Wearing apparel wet with the fumigant should be removed at once and the skin washed with soap and water to prevent blistering.

Table 1. Fumigants and dosages for the treatment of grain stored in wood bins<sup>1</sup>

Fumigant	Dosage (per 1,000 bushels)		
	Small grains except sorghums	Sorghum	Corn
	Gallons	Gallons	Gallons
Carbon tetrachloride-----	5	8	6
Carbon tetrachloride			
4 parts, plus carbon disulfide 1 part-----	3	8	6
1 part, plus ethylene dichloride 3 parts--	6	10	6
19 parts, plus ethylene dibromide 1 part--	3	8	---

<sup>1</sup>In steel bins the dosages may be reduced by 50 per cent for small grains and about 20 per cent for corn and grain sorghum.

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